

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Leonard Schliesman, Leland O. Tritz,)
Karen K. Spreda)

Serial No.: 09/941,279)

Filed: August 27, 2001)

For: Method for Making a High Solids)
Interactive Coating Composition)
and Ink Jet Recording Medium)

Atty. Dkt. No.: 0329.65766

Group Art Unit: 1714

Examiner: Callie Shosho

CERTIFICATE OF MAILING

I hereby certify that this correspondence is
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Signature

Assistant Commissioner for Patents
Washington, DC 20231

DECLARATION UNDER 37 C.F.R. 1.132

I, Leonard J. Schliesman hereby declare as follows:

1. I am one of the inventors of the above identified application.
2. I am employed as a research scientist at Stora Enso North America Corp.,

the assignee of the above identified application. I have 37 years experience in the paper and pulp industry.

3. The term "substantially free from grit" is understood in the paper industry to mean a coating composition that may be applied with a conventional blade coater without adverse consequences, such as blade scratches and streaks, resulting from grit in the composition. The term "substantially" recognizes that as a practical matter most coating compositions contain some grit. Nevertheless, if the grit particles are sufficiently small (less than 40 microns) or infrequent, such that they do not interfere with coating operations, we can say the composition is "substantially free from grit."

4. The term "low molecular weight polyvinyl alcohol" is a well understood term in the industry. Manufacturers of polyvinyl alcohol products routinely categorize their products a low, medium or high molecular weight. See for example, http://www.celanesechemicals.us/index-c/the_company-c/structure-c/pvoh-c.htm

Standard Grades

Individual Celvol polyvinyl alcohol grades vary in molecular weight and degree of hydrolysis. Molecular weight is generally expressed in terms of solution viscosity. The viscosities are classified as ultra low, low, medium and high, while degree of hydrolysis is commonly denoted as super, fully, intermediate and partially hydrolyzed. A wide range of standard grades is available.

5. I have read U.S. Patent No. 5,725,946 to Fukushima et al. The Fukushima et al patent does not expressly disclose the solids content of his coating composition. It is clear, however, that the solids content is below 20% solids. Specifically, in Example 1 of Fukushima et al, at col. 8, lines 48-57 a coating composition has 174 parts solids and 1330 parts water. Thus

the Example 1 composition is 13% solids. Further, Fukushima et al. states that the composition was coated onto the paper at a coat weight of 2.0 g/m^2 per side. This low coat weight is consistent with a low solids coating composition. In all of the examples, the coat weights are low, ranging from $0.3 - 4.5 \text{ g/m}^2$ per side (see Tables 1 and 2).

6. In the method disclosed in the subject patent application, coat weights of $7-12 \text{ g/m}^2$ per side are achieved and preferred. In my opinion, coat weights of this range cannot be achieved with conventional coaters with the low solids coating composition disclosed the Fukushima et al. patent.

7. At a low solids content (such as the 13% solids disclosed in Example 1 of Fukushima et al.) agglomeration of particles and grit formation is not a problem. As solids content increases, the potential for agglomeration increases correspondingly.

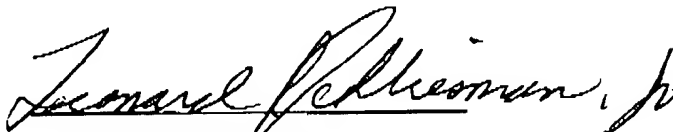
8. Fukushima et al. does not disclose or even consider a specific order of addition. In my opinion, the order is less important at low solids.

9. In the present application, at high solids contents, above 30% solids, the order of addition is important. The coating composition constituents are interactive. The potential for interaction of incompatible materials increases with solids content. Above 30% solids a change in the order of addition is likely to cause interaction between materials, flocculation and grit formation.

10. In my opinion, the prior art does not disclose how silica based, high solids, interactive coating composition can be achieved that is substantially free of grit.

11. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further

that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.


Leonard J. Schlesman

7/21/03
Date